
Risk Identification and Allocation – A Necessary Step

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This paper seeks to highlight the need for developing and establishing a proper logical process of construction contracting and managing so that a construction project can be successfully carried out with as minimal impact on planned time and budgeted cost. Likewise, it seeks to highlight that this can only be achieved by ensuring that there is a win-win situation for all involved such as the contractor and that this must entail setting up effective standards from the start.

Whilst many believe that the ambition of completing on time and within cost is not merely ambitious but downright wishful thinking, this paper seeks to provide methods that may bring you closer to achieving that goal. It must however be remembered that to achieve this, you will need the full assistance of a willing and able contractor. That is why a win-win risk management has to be the standard.

Construction, A Risky Business!

The archives are filled with the history of problems faced in construction projects worldwide whether it is a mega multi-international project, complex type of project or even small local projects. In fact, our own experience will show that even for small renovation works, there can be comparatively big problems. The industry is notorious for problems and claims.

Variations, delays and disruptions with its ensuing claims or cost impacts are the common features of every type of construction project. The escalation of construction cost either suffered by the owner or the contractor and the inevitable delays along

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with the opportunity loss and the increased financing cost have been the hallmark of the construction industry.

It seems that these standard problems worldwide have been on-going for centuries without any sight of control. We only have to look at Malaysia to see the number of reported problems with construction projects and to realize that the control mechanisms are not in place. The Matrade building², the Kuching Prison and now the latest episode of the highway in Johor to the new customs, immigration and quarantine complex which was budgeted at RM250million but now reported as having ballooned to RM470 million, are some of the more published examples simply because they are public sector projects involving tax-payer's monies. However, Malaysia is rife with even private sector projects that have been abandoned, scaled-down and delayed.

We Malaysians are not alone. This is a global problem. In the UK, surveys show that there are a large number of delayed and cost-overrun projects³. Even the UK has its list of infamous construction projects such as the Scottish Parliament building known as Holyrood⁴.

Dr. Julian Critchlow in his introduction to the series of papers termed as "The Great Delay Analysis Debate" quotes:-

"It has been said that the only major construction project to finish on time and to budget was a church where, presumably, divine intervention played a role"

It has to be understood that this is not a peculiar problem to any particular type of project but it in fact is a problem that infects all sorts of projects, at all types of locations, within all types of legal systems, cultures, languages and protocols or

² Original cost of RM167million had experienced a cost overrun of RM19.5million with extensive delays

³ 1999 survey in the Construction News (18.4.1999) shows that 58% of private projects are delayed and 32% suffer cost-overruns. It also shows that 66% of the UK Government projects suffer delays of more than 2/3 of the original period prescribed. In 2002 these figures remained the same.

⁴ A delay of 3 years and GBP150million cost-overrun. The Holyrood enquiry report in 2004 by The Rt. Hon. Lord Fraiser of Carmyllie QC laid the blame squarely on design delays, over-optimistic programming and uncertain authority.

practices. Delay, variations and disruptions are universal to all construction and civil engineering projects and it seems that it cannot be avoided.

Construction is a risky business but one must be aware that it can be tamed and controlled. One must be aware of the type of risks as far as possible and the techniques to manage or control the risk. To quote Sir Michael Latham⁵:-

“no construction project is free of risk. Risk can be managed, minimized, shared, transferred or accepted. It cannot be ignored.”

Once the risks are understood and identified, there must be an exercise in allocation. Who is to bear the risks and how is it to be clearly stated in the contract? Can and ought this risk be shared? Can this risk be passed on to others like the insurance company? Can this risk be managed effectively so that it is avoided or mitigated when it does take place? These are some of the general issues that ought to be considered at the allocation stage.

Normally one would think that after the risks have been allocated and the contracts are executed, the concerns of the parties then switch to the job but whilst progressing in the job, the other essential general questions that prevent the managing and the completing of a successful project for both the developer/owner and the contractor starts show its ugly head, namely:-

- If a risk event arises, do the contract conditions and terms clearly set out who is responsible?;
- For the benefit of the project, are there any methods by which either the owner/developer or contractor can mitigate the effects of the risk event?;
- Can the effects of the risk event be conclusively proven or disproved?;

⁵ In the Final Report on the Government/Industry Review of Procurement and Contractual Arrangements in the Construction Industry prepared by Sir Michael Latham.

- Is there an effective forum where any disputes on the risk allocation and the effects of the risk event can be resolved?

However, all the above concerns are clearly matters that ought to be addressed prior to any execution of any contracts. If one is to ensure that solutions to the above questions are to be effective, they must be thought out at the allocation of risk stage and drafted into the contract or specifications or negotiated with the contractor.

Today in the construction industry, there are effective processes available for a contractor and even a developer/owner to utilize and to help them focus their mind on the kind of risks that may exist within a particular project and the risks that obviously arise based on their own abilities or lack of abilities and potentially the abilities of others within the project.

These tools then allow a party to determine and establish the following:-

- the chances of any particular risk occurring;
- who should be allocated the determined risk;
- ensuring that the allocation is effective;
- managing the particular risks in any event so that the effects are mitigated;
- ensuring that the appropriate standard of cause to effect is required thereby minimizing exposure to excessive claims;
- ensuring that there are clear and precise but also achievable standards of cause to effect which would ensure that proper claims would be compensated.

With an effective implementation of the above considerations, it provides parties with some degree of control, management and ability to mitigate risk effects, when the risk events inevitably occur. Further, when the risk effects end up causing a financial loss, it provides a clear understanding of who is to be responsible and to what extent,

thereby encouraging settlement of claims or expedient determination of disputes with some degree of certainty.

The starting point is to consider the process for determining the risks and its allocations, which in turn will focus the parties carrying out the exercise to determining the standards required to resolve the other management of project questions.

The Risk Allocation Techniques

Identifying the Risk

There are international contract drafting experts who have tried to create spreadsheets setting out the variety of risks for a variety of projects as a technique in advising their clients on the choice of standard forms as the conditions of contract and its possible amendments. These spreadsheets run into 100s of risks.

Essentially developers/owners tend to have 3 broad concerns namely cost, time and quality. Contractors on the hand have 4 broad concerns namely being paid the value of works and on time, recovery of cost for variations, delays and disruptions, interference by 3rd parties and unforeseen contingencies in respect of the method of construction and temporary works. Further depending on who has the responsibility for the design, the broad concerns related to the design would be as to the sufficiency of the design for its purpose, sufficiency of design information for construction and the requirements of the regulatory authorities.

All the potential risks should and ought to be captured within these broad spectrums of concerns. Any other risks outside the spectrum ought to be risks that are essentially shared or passed on.

Academics have tried to categorize the various risks applicable into neat compartments that focus the mind to the allocation of risk exercise. Once identified, all the risks within a particular category are then either placed on the developer/owner or contractor or shared. The type of categories that come to mind are legal disputes, design, buildability, biddability, construction, financial, political and insured risk.

Whatever categorization is used, it is essential that one can still identify what type of risk falls within the categories and then make a decision as to who is to bear the risk. This is commonly known as risk allocation.

As a developer/owner, there is also a need to identify where the risks can be controlled and minimized because merely allocating the risk to one party does not resolve the essential problem which is that the construction project itself ultimately would suffer the risk which indirectly affects the developer/owner.

There must also be an appreciation that mere allocation of risk does not mean that the risk at all times will be maintained with the party so allocated. It must be recognized that conduct during the progress of a project may cause the risks allocated to switch. Therefore if possible, even these areas must be identified and considered.

Generally speaking, the first step is to define and know your own objectives and to identify the potential courses of action to attain these objectives. Then you need to identify the factors that present a risk or an opportunity, in so far as it either hinders or promotes the attainment of the objectives. Thereupon, the course of action that presents the maximum ratio of opportunity to risk co-related to the objectives, ought to be the course of action adopted.

One of the items that presents an issue of risks and affects the objectives, is the site itself. At the feasibility stage, many questions must be asked of the project site so that the likely impacts and therefore the likely risks will be identified. A checklist of the questions to be asked is attached at Addendum 1 [adopted with modifications from Ir.

Harbans Singh KS, Engineering and Construction Contracts Management, Pre-Contract Award Practice, 1st Edition 2002].

The process of determining and allocating risk is fundamentally linked to the drafting of the conditions of contract, which is effectively the choice of standard form conditions of contract and any amendments thereto. It may also involve the drafting of terms in the specifications especially as to items of works within the preliminaries.

The risk allocation process should generally be:-

- the identifying of the general objectives or some of the main criteria for the Project. The design and supervision responsibility and the importance of a fast completion will dictate the choice of the contractual relationship and the price mechanism;
- once these general objectives are determined along with the procurement or contractual relationship and the price mechanism, identify and make a conscious decision on the allocation of various risks arising therefrom, namely whether to retain the risk, transfer the risk, share the risk and even insure the risk if possible. This would then determine the conditions that ought to be in place to meet the objectives. It must however be understood that it would be natural to fail to have foresight of all risks which humans and nature can create, as they are truly infinite;
- allocate the risk through the conditions of contract or even the specifications or drawings but ensure that it is clear, unambiguous, consistent and complete. This process cannot be stressed enough. Almost all disputes arise to some extent due to lack of clarity or ambiguity with the Contract Documents and the allocation of risks. Good draftsmanship (if there is such a thing) is the essence of minimizing disputes. The more complex a provision or a condition especially those with extensive sub-provisions and cross-references, the more likely interpretation ambiguities will arise. The need for clarity is even more

important in the international market where parties have differing legal traditions and therefore differing expectations and understandings as to the effect of certain provisions. Alas it would be delusional to believe that the perfect draft of all contractual allocations can be achieved because language is after all an imperfect tool.

Principles on Risk Allocation

If risks are not allocated, then the law tends to take the position that any matter directly within the control of the developer/owner or his agents will be the developer's/owner's risks and all others including neutral events not caused or within the control of either party, will be the contractor's risk. The contractor's risk would even include the soil conditions as that is seen as a buildability risk⁶.

The allocation of risk has a correlative effect on planning, time, cost and the bid. On the developer's/owner's part, the more risks that are placed on a contractor, the more likely the cost of construction will escalate. On the contractor's part, the higher the bid the more unlikely the award.

There should also be a recognition by the parties that placing excessive risks on the other may jeopardize the other's solvency and in the end, that cannot be in their own best interest.

Therefore an essential element in allocating risk is the practice of certain general ethos or baseline principles that ought to prevent the costs from escalating or will allow a strong bid and reduce the likelihood of disputes:-

- an identification of one's own weaknesses and strengths related to the various likely risks;
- where the strengths surmount the weaknesses in any particular risk, one should assume the risk and not factor the same into the rates;

⁶ Bottoms v Mayor of York [1892] Hudson's Building Contracts 4th edition, volume 11, page 208

- where one is more capable of controlling and shouldering the risk arising from one's familiarity, experience and ability in controlling the risk, then one should assume the risk and not factor the same into the rates;
- where one is more able to influence the magnitude of the risk and to therefore minimize the risk, then one should assume the risk and not factor the same into the rates and use the opportunity to treat the risks so allocated as motivational towards minimizing and controlling it (this is sometimes known as the "least-cost risk bearer");
- where the risk can be transferred to 3rd parties through insurance for example, this should be encouraged. For a contractor, some risks can be transferred to and borne by its sub-contractors, especially where a right to claim and recover is then limited to a like right and amount of recovery by the contractor from the owner/developer;
- where a risk is wholly outside each parties' control, then risk sharing is also encouraged. This is applicable to force majeure and incremental weather (mere bad weather risk is usually borne by the contractor and incremental weather risk is usually borne by developer/owner);
- certain risks are placed based on overall objectives of the project depending on whether time, quality or cost is the driving factor;
- and finally some parties chose to use the foreseeability model with distinctions applied to risk that are "known", "known-unknown" and "unknown-unknown". Known risks to a contractor are transferred to the contractor, known-unknown is divided to 2 categories, one being reasonably foreseeable and the other being remotely foreseeable where the former is transferred onto the contractor and the latter is kept by the developer/owner and the unknown-unknown is shared, transferred to insurers or borne by the developer/owner.

There are various views on the baseline principles to be adopted but they are generally the same⁷. In fact some professional bodies have set up models to be used but their models are based on specific emphasis to elements such as cost.

Whichever risk analysis models are used, they will all be based on a set of assumptions but these assumptions, depending on how much effort on research is made, can be fairly constructive and informed, making the results more likely to be accurate.

There is a need to develop a systematic and objective management of risk into a project planning and execution programme, for both developers/owners and contractors. There is a need for all relevant organizations to establish philosophies, attitudes and procedures designed to reduce uncertainties, claims, to stimulate informed bidding, to increase awareness amongst all parties and key staff involved, to reduce unenforceable contract language and to allow easy and efficient contracting practices which are more cost effective.

The organizations can do so by⁸:-

- Forming a task-force or committee of project knowledgeable stakeholders. These should include consultants or experts, previous experienced personnel of the organization, the project team with their knowledge of the site (this is an important aspect as the proposed team will understand and better implement the views gained in the risk allocation and management process);
- Setting up a workshop to identify and then predict the frequency and severity of risks and prioritize those risks warranting further attention. A comparative

⁷ Abrahamson Max W, "Risk Management" [1984] ICLR 241
The Australian Joint Working Party, "No Disputes: Strategies for Improvement in the Building and Construction Industry (the No Dispute Report) [1990]
Construction Industry Institute of the USA, "Allocation of Insurance Related Risk and Costs in Construction Projects [1993]

⁸ Paper delivered by Smith Robert J at the 2nd Civil Engineering Conference in the Asian Region at Tokyo 2001

study can be made through research of the projects in the near vicinity, previous projects involving the parties and any previous similar projects carried out by the organization and the proposed team;

- Draft working papers should be circulated to the various experienced personnel in the organization with the possibility of further comments or thoughts;
- Setting up a separate workshop to develop a specific risk management implementation plan based on severity or frequency of the risk taken up by the party;
- Contract administration training and contract familiarization.

It has been recognised that misallocations of risk is the leading cause of construction disputes⁹. Further, an enhanced and a broadened cognisance of the wide range of risks that could materialise will result in better informed and more prudent designs, improved specifications, better informed bids, improved project communications and it ought to enhance the contract administration practices.

A general list of risks is attached as Addendum 1A and it is in no way to be construed as an exhaustive list. The list has also been divided to the various suggested allocations¹⁰.

The checklist or qualitative analysis employed can be varied to reflect how much thought has gone into the allocation process. It is felt that the checklist should at all times identify not merely the risk and the party so allocated but should contain the specific causes or weaknesses within the risk categories that give rise to concerns had by the party preparing the checklist and the likely effects of the risk.

⁹ In the USA, Center for Public Resources Inc [1991]

¹⁰ Smith, Robert J, "Allocation of Risk – The Case for Manageability"

Only then can the persons involved in the risk allocation process also put their minds to the other very important matter that should be covered in the checklist namely, what are the preventive measures (not the contract clauses) that can be employed to avoid, abate and reduce the chances of the risk occurring. As previously stated, the developer/owner should consider this fact even if the risk is intended for the contractor, simply because it still remains a risk of the project.

The checklist should also include a corrective consideration as to the intended steps for mitigating the risk or limiting the consequences of the risk, reducing the uncertainty of the outcome of the risk event, passing the consequences to 3rd parties and handling the same once the risk event has occurred with some risk mitigation processes. To this analysis, should be added any further consideration of any causative and legal liability risk handling possibilities that ensure the party exposed is only exposed to a fair and reasonable financial outcome of the risk event.

A contractor is also encouraged to deal with the risks allocation and handling analysis in its planning and scheduling processes, as well as to carry out such an analysis for the risks arising from its sub-contractors and suppliers.

An example of the risks qualitative analysis checklist as suggested by us is attached as Addendum 2.